

(FILE 'HOME' ENTERED AT 13:42:59 ON 23 APR 2002)

FILE 'USPATFULL' ENTERED AT 13:43:07 ON 23 APR 2002

L1 15195 S ELECTRONIC? (3A) (POSTCARD# OR IMAGE# OR PICTURE#)
L2 1211 S (CREAT? OR GENERAT?) (5A) (L1 OR MESSAGE#) (5A) IDENTIF?
L3 108 S SERVER? (P) L2
L4 111 S L1 (P) DESTINA?
L5 0 S L4 AND L3
L6 6 S L4 (P) SERVER? (P) (GENERAT? OR CREAT?)

=> l1 and server and (web or http or html)

L1 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s l1 and server? and (web or http or html)

37702 SERVER?
143326 WEB
7451 HTTP
7025 HTML

L7 353 L1 AND SERVER? AND (WEB OR HTTP OR HTML)

=> s l7 and l2

L8 7 L7 AND L2

=> d 1-7 pn,ab,kwic

L8 ANSWER 1 OF 7 USPATFULL

PI US 2002016718 A1 20020207

AB The present invention provides a medical image management system and method that uses a central data management system to centrally manage the storage and transmission of **electronic** records containing medical **images** between remotely located facilities. The present invention also provides a system and method for packaging an image for secure transmission. The present invention also provides a system for tracking delivery and review of images and various attachments or augmentations to the image files. The invention also provides a system and method for providing lifetime storage of images that may be accessed by different authorized imaging centers and providers throughout the life of the patient. An image or file is packaged to be transmitted through a firewall of an image viewing location and stored in a relational database at the remote viewer. The image is delivered to a physician for ready accessibility at a remote viewer. Various files may be added to the patient's file at remote viewers. Overlays, reports and other attachments are created or input at image viewing stations and may be packaged for delivery to authorized locations and are tracked and stored by a data center.

AB . . . image management system and method that uses a central data management system to centrally manage the storage and transmission of **electronic** records containing medical **images** between remotely located facilities. The present invention also provides a system and method for packaging an image for secure transmission.. . .

SUMM . . . CT has been replaced, since it was stored under proprietary format that accompanied the previously owned CT or MRI. A client/**server** model of delivering images has been proposed where a provider logs on and requests live delivery of an image file stored on the client **server** system. Such system is undesirable in that the image delivery requires a substantial amount of time and is not available. . . systems have not been proposed for lifetime storage and access and to provide such storage and access would require the client/**server** have increasingly large and expensive storage capacity for live transfer. Accordingly, it would be desirable to

SUMM provide a lifetime storage. . .

[0008] In order to **electronically** transport medical
images efficiently, the images must be in a digital format. The
imaging device, such as the MRI machine, must have the. . .

SUMM [0012] Once these above barriers are overcome, it becomes possible to
electronically transmit medical im

L6 ANSWER 6 OF 6 USPATFULL

PI US 5426594

19950620

AB An electronic greeting card communication system (100) includes a first personal communicator (102), an electronic mail server (136), and a second personal communicator (102). The first personal communicator accepts off-line selection of an electronic greeting card from a user (502), and then transmits a request message corresponding to the off-line selection. The electronic mail server (136) receives the request message and then wireless transmits an electronic greeting card message to the second personal communicator (102) and updates billing information (620) for billing the user of the first personal communicator (102). The second personal communicator (102) selectively receives the wireless transmitted electronic greeting card message and presents it to a user.

CLM What is claimed is:

. . . receiving a user selection of an electronic greeting card from said memory of the first personal communicator; a controller for generating a request message for requesting the selection of the electronic greeting card to be transmitted to a second personal communicator; . . . the selection of the electronic greeting card, the request message including at least an electronic greeting card identifier and a destination identifier; an electronic mail server, coupled to the electronic greeting card supplier, for receiving the request message from the first personal communicator, and for processing. . . electronic greeting card corresponding to the selection of the electronic greeting card to the second personal communicator; the electronic mail server updating billing information associated with an account of the first personal communicator in response to the electronic greeting card being. . . greeting card; and means for presenting coupled to the selective call receiver for presenting the electronic greeting card including an electronic greeting card image corresponding to the representation thereof to a user of the second personal communicator.

L8 ANSWER 5 OF 7 USPATFULL

PI US 6018774 20000125

AB A system for creation of an image display such as an **electronic postcard**. The system interacts with a user to create and configure the display. The user provides the image data to the system and optionally specifies a message and addressee for the image display. The system creates the display, comprising a mixture of image and textual data, and sends a notification including identification of the display to a specified addressee, for instance, the recipient of the postcard. The addressee can then request receipt of the display from the system via the identification information sent by the system.

AB A system for creation of an image display such as an **electronic postcard**. The system interacts with a user to create and configure the display. The user provides the image data to the. . .

SUMM The present invention relates generally to image processing and manipulation and more specifically to a system for the creation of **electronic postcards**.

SUMM In the past, the typical way to create an **electronic image** was through such a scanner connected to a computer. Thus, if an individual desired to have a digital electronic photograph. . .

SUMM The second advance is the development and acceptance of the world wide **web** (WWW, **web** or Internet) as a mode of exchanging electronic information. The **web** is a network of computer systems that allow the free interchange of information. Users at a home computer or clients connects via a modem to the **web** via an Internet Service Provider (ISP) which provides users local access to the **web**. Users seeking access to the **web** typically dial up and connect to an ISP, which acts as an intermediary and passes data between the **web** and the user. Also connected to the **web** are **servers**--computers capable of supplying information or services to users. Each individual computer connected to the **web** has a unique identifier so that information can be directed to the proper location. Information is passed between users on the **web** via pages displayed on a browser.

SUMM ISPs also provide the home user the ability to send and receive electronic mail (email). Often an individual accessing the **web** will have an email address, a unique identifier for a particular user that allows that user to receive mail. The. . .

SUMM . . . at home can download the images captured by their digital camera or scanner into their home computer, connect to the **web** by modem in their computer, and transmit their picture onto the **web**. Thus, the individual can send the image to a second person, at a remote location.

SUMM As digital cameras become widely accepted, a greater need will arise for flexibility in the **electronic distribution of images**. Current methods for distribution include email where the digital photograph is converted to a textual representation, sent to the remote. . . who then converts the textual representation back into the digital photograph. Users may also distribute the digital photograph via predesigned **web** pages which allows any number of remote users to examine the digital photograph. None of the current mechanisms allow the user to transfer a digital photograph to a **server**, process the image data into a display and send a notification to one or more specific individuals to view the. . .

SUMM . . . it is a goal of the present invention to provide a system which can load a picture image onto a **server** and to provide notice to specific individuals.

SUMM It is an alternate goal of the present invention to allow the creation of **electronic postcard** composed of the user's digital photograph.

SUMM It is an alternate goal of the present invention to allow the creation of **electronic postcard** that mimics aspects of a conventional postcard.

SUMM It is an alternate goal of the present invention to allow the creation

of **electronic postcard** having a postmark or logo information.

SUMM It is an alternate goal of the present invention to allow the creation of **electronic postcard** that includes the ability to merge text information with the digital photograph.

SUMM The present invention is a system and method for processing **electronic image** data. The system comprises at least one **server** computer connected to a network. The **server** is adapted to receive **electronic image** data from a second computer connected to the network. The **server** processes the **electronic image** data and creates a display containing at least a portion of the processed **electronic image** data. One or more displays may be assigned a unique identifier. The data representing the display is in a format. . . . allows for transmission to and viewing on a client computer. Viewing on the client computer is preferably accomplished via a **web** browser. The **server** is also adapted to send a notification containing the unique identifier to at least one person via the network. The person receiving the unique identifier can retrieve the one or more displays represented by the identifier from the **server** for viewing.

SUMM The processing on the **server** consists of one or more of the following: captioning, formatting, storing, transmitting, centering, cropping, flipping, anti-aliasing, scaling, compressing, filtering, color. . . visual effects. In addition, the client may be augmented to perform a portion of the processing during interactions with the **server**.

SUMM The data for the **electronic image** may also be provided via a photo processor where film is developed and then converted into an **electronic image**. The data representing the **electronic image** may then be transferred from the photo processor to the client computer or directly to the **server** computer.

DRWD FIG. 1 is a simplified block diagram of connections to the **web** ;

DRWD FIG. 2 is a simplified block diagram of a **server** and personal computer as found in FIG. 1, illustrating a portion of the functions utilized by the present invention;

DRWD . . . of the steps executed by a personal computer of the present invention in creating the front and back of an **electronic postcard**;

DRWD FIG. 6 is an image of the present invention **electronic postcard** creation page, as displayed within a browser window, where the **electronic postcard** is empty of user information;

DRWD FIG. 7 is an image of the present invention **electronic postcard** illustrating the prompt for a message;

DRWD FIG. 8 is an image of the present invention **electronic postcard** illustrating the input of a message;

DRWD FIG. 9 is an image of the present invention **electronic postcard** illustrating the prompt for input of an input image;

DRWD FIG. 10 is an image of the present invention **electronic postcard** illustrating the selection of an input image;

DRWD FIG. 11 is an image of the present invention **electronic postcard** illustrating the input image placed on a side of the postcard;

DRWD FIG. 12 is an image of the present invention **electronic postcard** illustrating the prompt for an image caption;

DRWD FIG. 13 is an image of the present invention **electronic postcard** illustrating the composite created from the input image and image caption;

DRWD FIG. 14 is an image of the present invention **electronic postcard** illustrating the prompt for the sender's name and address;

DRWD FIG. 15 is an image of the present invention **electronic postcard** illustrating the prompt for the recipient's name and address;

DRWD FIG. 16 is an image of the present invention **electronic postcard** illustrating the completed postcard prior to sending to the recipient; and

DRWD FIG. 17 is an image of the present invention **electronic postcard** illustrating the display of a sent postcard.

DETD The present invention relates to a system for the generation of **electronic postcards** for distribution via an electronic network. FIG. 1 illustrates a simplified view of a network of computers. Two basic machines are connected to the network, user (or client) computers 10 and 20, and **server** systems 31 through 35. User computers, for example computer 10, are conceptually separate from **server** systems, as they provide the functions necessary for a typical user to connect to the network and exchange information with other user computers and **server** systems. In the present invention, the user computer 10 may interface to a variety of peripheral devices, including a scanner. . . .

DETD . . . connects via the modem 11 to an ISP 31. The ISP provides the interface between the user computer and the **web** 30. The ISP 31 may also provide other services, such as receipt and storage of user email, storage of user files and various other services. As the interface to the **web** 30, the ISP 31 receives packets of data from the user computer 10 and stores the received information or forwards the information on the **web** 30 to the addressed destination. The addressed destination may be one of the **servers** 31-35 or may be a separate user computer 20. One of ordinary skill in the art will appreciate the variety of configurations possible on such a network. While the **web** is illustrated as a single network, it is understood that it may comprise one of a number of local area. . . .

DETD In the preferred embodiment, the **electronic postcard** functionality is implemented as a component of a **web** site. A **web** site is essentially a **server** computer providing public access to one or more files containing hypertext documents. A user utilizing a **web** browser running on a client computer 10 to access the hypertext documents stored on one or more **server** computer 31-35 located on the network 30. The **server**, running hyper text transfer protocol (**HTTP**) **web** **server** software, transfers the hypertext document to the user computer for display on the browser. The present invention is directed to software that adapts the **server** to perform the functions necessary to create and transmit an **electronic postcard**.

DETD **Server**

DETD With reference to FIG. 2, in the preferred embodiment a **server** 31 is a Pentium Pro (Intel Corporation, San Jose, Calif.) based computer connected to the Internet running the Linux operating system (Red Hat Software, Inc., Research Triangle Park, N.C.) and the MetaHTML **web server** software 61 (Universal Access Inc., Santa Barbara, Calif.). The **web server** software supports the **HTTP** protocol--the standard used in World Wide **Web** interaction. When a request is made over the Internet to view a **web** page, the **server** responds to this request returning a reply in the form of text describing the page in the hyper text markup language (**HTML**) format. A user specifies the page he would like to view with a Uniform Resource Locator (URL), or **web** address.

DETD Database on **Server**

DETD The **server** 31 is adapted to store and process data that is transmitted over the Internet. The present invention utilizes two type. . . . number that distinguishes that user's session from all others. This unique identification number is stored by the client via the

web browser using a standard mechanism known as the "cookie mechanism." The identification number is used by the client as the . . . the client, writing of the cookie and recording and retrieving data from the Session Database 62 is handled by the **server** via the MetaHTML software.

DETD The **electronic postcard** is composed of two data forms: textual and graphical. The textual data is stored in the Session Database while the card is being created. The graphical data (generated images and photographs) are stored in the file system of the **server** in a directory specifically created to store the temporary image files, herein designated as the Temp Image Database 65. In. . .

DETD After the **electronic postcard** is sent, the postcard data is stored "permanently" in two other databases. One database, called the Card Database 63, stores. . . the images that have been constructed for the front and back of the card. In the preferred embodiment, after the **electronic postcard** is sent and the data is stored in the Image Database 66, the temporary graphical data files and session data. . . .

DETD . . . the Card Key that is created at the time the card is sent. This key--the information required for retrieving the **electronic postcard** data from the Card Database 63 and Image Database 64--is sent to the recipient of the card in a message. As a result, the recipient has sufficient information for interacting with the **server** so as to view the specific **electronic postcard** identified by the Card Key.

DETD . . . (the number of days is a number set when the system is configured, and is not a limitation of the **server** storage time). After that point the permanent card and image data may be automatically deleted. The data is also deleted. . . .

DETD Dynamically generated **web** pages

DETD The present invention is adapted to process text and graphic data to create an **electronic postcard** that is composed of custom generated **HTML** pages including generated images within the **HTML** pages. The system looks at the data it has stored from previous user inputs and creates the **HTML** page to achieve the custom look desired by the user. The user specifies the look by supplying the graphical data. . . for the textual content and address. Certain style characteristics may be automatically determined from the user data. For example, different **HTML** text is generated when the photo is horizontally oriented than when it is vertically oriented. Orientation is, in turn, determined. . . .

DETD The **electronic postcard** 400, as illustrated in FIG. 4, is composed of **HTML** pages consisting of tables, with some cells of the table containing static images and some cells containing generated images. Static. . . .

DETD When a user enters text or makes a style selection, this input is sent to the **server** and is stored and processed using code residing on the **server**. This process uses a scripting language such as MetaHTML or Dynamo (Art Technology Group, Boston, Mass.) (detailed algorithms of this process are outlined below in the "Use" section). The **server** then sends to the client a new **HTML** page containing the updated information and regenerated images. In order to improve operation of the system, only those sections of. . . .

DETD . . . Computer, Inc., Cupertino, Calif.), an IBM-compatible machine (IBM Corp., Armonk, N.Y.) or any other computer capable of running a standard **web** browser. The client connects to and communicates on the **web** using the TCP/IP protocol. The actual physical connection is not critical for the present invention, and may be accomplished via. . . .

DETD . . . the user to make style selections, enters text and uploads photos. The browser 51 displays the pages received from the **server** 31 and collects user input for transmission to the **server** 31. The pages in the preferred embodiment are written in

standard **HTML** capable of being displayed on the **web** browser with no additional plug-ins or other applications.

DETD . . . can receive data from a digital camera 15, video camera 14, scanner 12, or from a film processor who provides **electronic image** data. In addition to the different sources, a variety of graphical data formats can be used to encode the image. . .

DETD . . . present invention, a separate client computer, such as user computer 21 of FIG. 1, may be the receiver of the **electronic postcard**. For reception of the **electronic postcard**, the receiving computer should have access to an email account and be able to send and read email using a. . .

DETD As illustrated in FIG. 17, the **electronic postcard** has the familiar "look and feel" of a standard postcard, with a photo on one side and a personalized message and recipient's name on the other. The user fills in the **electronic postcard** with personalized information: recipient's name, message, signature; and uploads a photo selected by the user that will appear on the card. After the user has specified the information to appear on the **electronic postcard**, an email message is automatically sent to the recipient notifying them of the card.

DETD The **electronic postcard** user must first connect their personal computer to the Internet using a modem and a telephone line. Using standard SLIP. . . When the connection is made and all of the protocol hand shaking has completed, the user then connects to the server where they can create their **electronic postcard**.

DETD Go to a site that offers **Electronic Postcard**

DETD With an Internet connection the user can now use standard **web** browser software (such as Netscape Navigator or Microsoft Internet Explorer) to access a site that offers the **electronic postcard** service using the URL specific to this site.

DETD The initial **web** page shows both sides of a blank postcard

DETD When the user first comes to the site the initial **web** page, as illustrated in FIG. 6, is a blank **electronic postcard** 600. The layout shows both the front 601 and the back 602 of the postcard 600 on one screen. The. . .

DETD Choose a tab to fill in part of the **Electronic Postcard**

DETD The user adds their personal information to the **electronic postcard** by clicking the tabs 603 through 607 that surround the front 601 and back 602 of the card 600. The. . . the recipient 605, a user-selected photo 603, and a photo caption 604. When the user clicks a tab a new **web** page appears that contains a form with input fields for the selected part of the card. There is a different. . . used, for instance a sequential list of steps or a fixed sequence of steps could be implemented to complete the **electronic postcard**.

DETD Specifying the parts of the **Electronic postcard**

DETD . . . clicks one of the tabs 603 through 607 to bring up the page that corresponds to that part of the **electronic postcard**. The page will contain a form that prompts the user to enter the information that will appear on the card. The user fills in the fields in the **HTML** form and clicks the OK button to transmit the data to the **server** computer. The transmission is handled through a standard **HTTP** Form POST request. The **server** processes the fields from the POSTed data and validates the information. If the information is valid it is stored in. . .

DETD When the information in the session database changes, the **server** regenerates the postcard and the new information appears on the postcard. This process can also be used to change a. . .

DETD FIG. 7 illustrates the display after selecting the message tab 605. The **electronic postcard** generates a prompt 701 for the user to input a message for display on the back of the postcard 600.. .

DETD FIG. 11 illustrates the **electronic postcard** after the photo has been uploaded to the **server** and processed by the **server**. The steps for processing the photograph are described in detail below. The front of the postcard 600 now has the. . .

DETD The front of the **electronic postcard** may also include a caption by selecting the caption tab 604 of FIG. 6. The system then displays a prompt. . .

DETD The final information needed for the postcard is the sender's and recipient's name and email address. FIG. 14 illustrates the **electronic postcard** system prompting for the sender's name after selecting the from tab (606 of FIG. 6.) The user specifies the name. . . postcard. The email address is used for facilitating further communications between the sender and the recipient. FIG. 15 illustrates the **electronic postcard** 600 with the senders name rendered onto the back 602.

DETD . . . addressing the postcard. The email address is used for sending the Card Key to the recipient. FIG. 16 illustrates the **electronic postcard** 600 with the recipients name rendered onto the back 602. At this point the **electronic postcard** is ready to be sent or the user may select any one of the tabs to correct or change the. . .

DETD . . . generated by the system. If generated by the system, it may contain advertisement material specified by the operator of the **electronic postcard server**. When the system sends the card, a notice 1704 is given to the user that the postcard was sent. The. . .

DETD . . . and convert the image 310: The resulting image is finally compressed and converted into an image format viewable in a **web** browser (such as GIF or JPEG format). The result of this process is an image that shows the generated portion. . .

DETD . . . use on their card. The photo should be in JPEG or GIF format. The file name is specified using an **HTML** form with an INPUT field of type FILE. This field type is supported by Netscape Navigator browsers. The FORM data is POSTed to the **server** when the user clicks the OK button. The file contents are included with the form data and is received on the **server**.

DETD . . . the photo is transferred as an email attachment. The email is sent to a special address (e.g. picturedrop.yobaby.com) on the **server** site that is used for transferring pictures. The name part of the address would encode the specific session that the photograph is associated with. A mail **server** running on that **electronic postcard server** treats mail to this address specially. For example in a mail **server** such as Sendmail this is be handled by a rule for a special host. The rule pipes the message to. . .

DETD When a photograph is received on the **server** the **Electronic postcard server** software processes the photo using several steps as illustrated in FIG. 3a:

DETD Check size and type 354: The image data that is POSTed to the **server** must be in a size and format that the **electronic postcard** software can handle. The first step is to check the byte count of the data sent to the **server**. If the byte count exceeds some limit then the image is ignored and the user is redirected to an error. . . done use a program like the Unix command file. If the type is not one of the types supported by **electronic postcard** then the file is deleted and the user is redirected to an error page.

DETD . . . typically in a compressed format. It can be in one of several formats. To more easily manipulate the image the **server** first converts it into a uniform uncompressed format such as Portable PixMap File Format (PPM), The conversion can be done. . . Unix NetPBM library (software distributed from Washington University, St. Louis, Mo. as found in the directory specified by the URL <http://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM>).

DETD . . . and convert the image 362: The resulting image is finally compressed and converted into an image format viewable in a **web** browser (such as GIF or JPEG). The result of this process is an image that shows generated portion of the. . . .

DETD . . . have been specified the card is complete and can be sent. When the user clicks on the "Send" button the **server** creates a card key, saves the card into the Permanent Database and sends an email message to the recipient.

DETD The email message that is automatically sent to the recipient states that there is a card available on the **web** site for the recipient and that it can be viewed by opening the specified URL. The URL includes the Card Key that uniquely specifies that particular **electronic postcard**.

DETD . . . may view the card as soon as they receive the email message with the URL. The recipient will use a **web** browser to enter the URL, and view their personalized page.

DETD While the preferred embodiment described above is directed to an **electronic postcard**, the system is not so limited. The present invention may apply to a variety of systems that require the user to upload image information for processing by the **server** into a display for viewing and to optionally provide a notice mechanism so as to alert an audience as to. . . .

DETD Photo Contest: In this embodiment of the system, the user can upload an **electronic image** onto the **server** where a minimal amount of structure is imposed (possibly including scaling and format conversion.) The image data may be stored. . . . send a notice (including the image identifier) to the judge or judges notifying them of the entry of the new **electronic image**.

DETD Baby Journal: In this embodiment of the system, the user can upload an **electronic image** onto the **server** of a child or infant. The **server** may impose a fixed structure (i.e. a specific frame and format for the page holding the image) or allow a. . . .

DETD Family Album: In this embodiment of the system, the one or more related users can upload an **electronic images**. The **server** may impose a fixed structure (i.e. a specific frame and format for the page holding the image) or allow a variety of structures for the user to select from. The **server** may also segregate the **electronic image** displays according to each user (i.e. family member) while keeping a relation between all of the displays (overall family album.). . . .

DETD . . . adding visual effects etc.) The embodiments can further be adapted to provide additional processing by the client computer of the **electronic image** data and/or the display. For example, the system could be modified to allow the user to drag the client computer's. . . . to show the re-positioned photograph. The display update could proceed while the mouse is being dragged, without communicating with the **server** computer. Software running on the client computer can also preview the result of the various other types of image data. . . . produced as result of this processing on the client computer could be at the same resolution as created by the **server** computer or it could be a lower quality so as to minimize processing time for the preview, thus allowing the **server** to actually produce the final processed information. The client computer software can be implemented in the Java language so as. . . .

CLM What is claimed is:

1. A method of sharing image data between a user and a recipient via a **server** adapted to communicate with a sending computer and a receiving computer, the **server** executing the steps of: receiving **image** data embodying an **electronic image**, the **image** data transferred under control of the user at the sending computer, the **image** data residing in the sending computer or. . . . running on a computer; receiving a message address from the sending computer for use in sending messages to the recipient;

generating a message including the **identifier**; and sending the message to the receiving computer for retrieval by the recipient.

. . . of claim 1 wherein the step of receiving the image data comprises uploading a file containing the data representing the **electronic image** from the sending computer.

. . . 5. The method of claim 1 wherein the step of receiving the image data comprises transferring a file containing the **image** data via an **electronic** file transfer protocol.

6. The method of claim 1 wherein the **server** further performs a step of manipulating the stored image data, the step comprising at least one operation selected from the. . .